

## Surgical repair of sinus membrane perforations

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**Background and aim:** The most frequent intraoperative complication with sinus elevation is perforation of sinus membrane. New techniques are improved for the management of large perforations of the Schneiderian membrane. Choukroun's Platelet Rich Fibrin (PRF) is one of the new developed techniques. PRF is second generation platelet concentrate and contains many growth factors which are obtained in a simple manner from patient's own blood. The treatment of sinus perforations with PRF is a simple, economical procedure.

**Materials and methods:** Forty-six year old female patient received bimaxillary sinus lifting surgery. The sinus augmentation procedure followed the technique described by Tatum. Prophylactic oral antibiotics (Amoxicilin 1000mg) and anti-inflammatory drugs (Meloxicam 15 mg) were used half an hour before the procedure and continued for 7 days. Although care was taken not to perforate sinus membrane perforation occurred in both sides. One perforation side was sealed with only PRF. The other side was sealed with PRF and also bone graft (Bio-Oss, Geistlich, Germany) was applied. After 8 months, only PRF applied side is treated with PRF and bone graft (Bio-Oss, Geistlich, Germany) with second surgery.

**Results:** Both sites were rehabilitated successfully with implant-supported prosthesis.

**Conclusion:** Sinus perforations treated with Bio-Oss and PRF at the same time allows for shorter waiting time. Growth factors inherited by PRF may be a supporting factor for complication free healing. Further investigation may prove the clinical effectiveness of these techniques.

## Implant fracture management: a 14 years clinical observation

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**Background and aim:** Implant fracture is a relatively rare occurrence; however, it is (1) potentially difficult to resolve, (2) time consuming for patients and clinicians alike. This report documents the outcome of poor diagnosis and underestimation of risk factors and the consequences on implant and prosthesis prognosis.

**Materials and methods:** In 1991, a male 54-year-old patient partially edentulous (remaining teeth = 11, 21 and 27) received

two implants in site 13 and 24 to retain a removable partial denture (RPD). Both were  $\varnothing 4.1 \times 12$  mm hollow screw ITI Bonefit Straumann implants and supported a ball anchored RPD. In 1995, both implants fractured at the first row of hollows and the osseointegrated embedded portions were left *in situ*. Subsequently, two implants were added mesially and distally to each fractured implant. To retain the RPD, all four implants were equipped with magnets. From 1996 till 2006, all magnets have been replaced five times because of wear and fracture; the RPD was also relined. Owing to the high frequency of complications and because of the subsequent failure of the remaining teeth, additional implants were placed after a bone grafting procedure. Relying on 10 implants, a fixed complete prosthesis was cemented in 2008.

**Results:** Before implant treatment the patient presented a history of parafunctional habits materialized by multiple relinings and fractures of the existing RPD. Hypertrophic masticatory muscles were also, and still are, patent. After 4 and 4.5 years of function, both implants fractured. The radiographs showed a limited bone loss on the implants attaining the first row of holes of the implant. This bone loss may have been secondary to occlusal overloading because no signs of periodontitis could be identified. On radiographic controls, the implants' fractured portions were progressively surrounded by bone. After 14 years, they remain encapsulated and asymptomatic.

**Conclusion:** On retrospect, this patient presented many risk factors that are now recognized as potentially leading to implant fracture. Considerable time and cost were wasted and would have been avoided, if all the risk factors had been identified and taken into account. Nonetheless, this case shows that fractured implants do not need to be explanted if they do not jeopardize an ensuing treatment. A timely more complex treatment may have avoided all these complication and would have led to increased satisfaction of the patient and less risk to the implants and the prosthesis.

## Implant supported prosthetic rehabilitation of the patient following osteomyelitis treatment. A case report

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**Background and aim:** Osteomyelitis of the mandible is usually odontogenic or traumatic in origin and is a mixed infection of oral bacteria that involves all layers of bone in which widespread necrosis occurs. Patients with osteomyelitis often have a systematic disease like osteopetrosis, pyknodysostosis, osteoporoses or the use of medicines like bisphosphonates. Rarely, osteomyelitis occurs after a tooth extraction, resulting from a virulent, bacterial and resistant infection. Extraction socket no